



Air Force Research Laboratory|AFRL

Science and Technology for Tomorrow's Air and Space Force

Success Story

MATERIALS RESEARCHER APPOINTED SENIOR SCIENTIST FOR CONTRIBUTIONS TO STRUCTURAL MATERIALS LIFE PREDICTION



The senior scientist (ST) position is one of the highest a civilian scientist can achieve and is comparable to the rank of brigadier general. Dr. James Larsen's appointment reflects his dedication to in-house research, his participation in key Materials and Manufacturing Directorate contractual research programs, his important technical leadership on numerous flagship efforts, and his reputation as an expert in materials' science and engineering. His selection also enhances AFRL's reputation as a world leader in materials research and development and recognizes the skill and professionalism of directorate scientists and engineers.



Air Force Research Laboratory
Wright-Patterson AFB OH

Accomplishment

The directorate recently appointed Dr. Larsen as ST for structural materials life prediction. The appointment is the result of Dr. Larsen's outstanding technical, professional, and scientific achievements including supporting operational and future Air Force systems as leader of an in-house research group focusing on life prediction and durability of metallic and ceramic materials. His individual in-house research efforts and technical leadership working with monolithic alloys, intermetallics, metal matrix composites, and ceramic matrix composites led to numerous successes in the directorate's Metals, Ceramics, and Nondestructive Evaluation Division including new analytical and computational models for material life prediction.

Background

Currently, Dr. Larsen is the directorate's research leader for life prediction and durability of metallic and ceramic materials. In this capacity, Dr. Larsen has full responsibility and authority for the direction and productivity of his research team, which consists of approximately 45 government and contract scientists, engineers, technicians, and graduate and undergraduate students.

In-house research performed by Dr. Larsen's group addresses the full spectrum of life-prediction problems of current and future aerospace materials. Dr. Larsen conceives and develops goals for the effort, and initiates, advocates, and conducts research programs to cover a diverse range of scientific and technological areas.

In his personal research, Dr. Larsen identifies problems, performs experiments, analyzes and interprets data, and develops new analytical and computational models for life predictions. His individual and group research efforts have had a decisive effect on development of the science and technology of mechanical behavior and life prediction of advanced aerospace materials. He has been a major influence on the activities of colleague researchers in government and industry.

Dr. Larsen is a critical participant in the directorate's contractual research program, having provided key technical leadership on numerous contracts. He also served as a key member for various technical teams throughout the directorate as well as the Propulsion and Air Vehicles Directorates. His significant expertise has helped in the areas of materials science, fracture mechanics, mechanical behavior and life prediction of metallic and ceramic matrix composites, and statistical and numerical analysis.

Additional information

To receive more information about this or other activities in the Air Force Research Laboratory, contact TECH CONNECT, AFRL/XPTC, (800) 203-6451 and you will be directed to the appropriate laboratory expert. (03-ML-34)